ENVIRONMENTAL IMPACT ASSESSMENT REPORT

MILL VALLEY

A Mixed Use Community

Nether Providence Township
Pennsylvania

April 6, 1989

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INTRODUCTION

Growth Services, Inc. and Coslett Enterprises, with offices at The Sheridan Building, 125 South Ninth Street, Suite 801, Philadelphia, PA 19107, propose to develop and build the Mill Valley mixed use community. The development of the site is intended to provide clustered residential opportunities in Nether Providence Township, Delaware County, Pennsylvania as well as a select amount of professional office space.

The subject tract of land is presently zoned Industrial and R-3 Residential (see drawing A1). The property is owned by the National Hair Cloth Company.

The purpose of this development report is to demonstrate the Environmental Impact Assessment of the proposed Mill Valley Residential Community.

PROGRAM

The program includes 65 clustered single family attached units with 40,000 sq. ft. of professional office space.

SITE LOCATION

The subject property is located on the southerly side of Brookhaven Road to the south of Sackville Lane. The site is comprised of approximately 42 acres, 27 of which are in Nether Providence Township. The remaining area is in Brookhaven Borough.

The tract has 180 feet of frontage along Brookhaven Road. The westerly boundary of the main body of the tract adjoins residential land which is part of a residential subdivision in Brookhaven Borough. The easterly boundary of the main body of the tract is adjacent to residential property along Brookhaven Road. The north boundary of the property is the Borough of Rose Valley with its residential development. Please refer to drawing A1 for property owners within 400 feet of the Sackville property.

PHYSICAL SITE CHARACTERISTICS

The property has been operated as a mill for over two hundred years. The National Hair Cloth Company presently occupies the site. Since the mill buildings were located in the stream valley of the Ridley Creek, they are not visible from Brookhaven Road. In fact, the mill buildings are not visible from the surrounding residential development due to their difference in elevation at the valley bottom. Only in the winter time when the leaves are off the deciduous trees can any of the mill buildings be

viewed from the periphery of the site. With the exception of interior valley slopes which effectively screen and buffer the future development of residential clusters from the subject site's eastern boundary, the property is relatively flat with slopes varying between 0 percent to 8 percent on the top of the ridges.

In addition to having interior slopes which provide effective screens and buffers from the adjacent residential development, these undeveloped slopes provide valuable open space. Virtually the entire development will be internally focused with a single entranceway off of Brookhaven Road along with the continuous buffers on the perimeter.

EXISTING ZONING

The subject property is zoned "M-Manufacturing and Industrial" on the majority of the Nether Providence side with a strip of R-3 Residential along Brookhaven Road (see drawing A1).

Although the existing zoning is manufacturing as is the existing use, the tract would most appropriately be developed for residential uses.

The site is bounded on all sides by residential development; single family lots on the north and east, and single family as well as townhouses on the west in Brookhaven Borough. Therefore, residential uses responsive to the topography of the site would be the most consistent land use pattern once the manufacturing and industrial uses are phased out.

UTILITY AVAILABILITY

The sanitary sewer and potable water service for the proposed development is projected to tie into the existing mains on Brookhaven and Moore Road. The proposed system requires the construction of 8-inch gravity mains. The proposed mains will carry the flows to tie into the Brookhaven Sewer at the south end of the property. The existing textile plants tie into this same sewer.

Traditionally, residential use generates 100 GPD of sewage per dwelling unit.

Finally, the developer has been advised that there is adequate sewer capacity to service this development.

Both electric and gas service are available on the property and have enough capacity for the proposed development.

Three existing gas pipelines pass through the site. Building over these pipelines is restricted. Their location is indicated on drawing A3, "Existing Conditions."

ENVIRONMENTAL IMPACT ASSESSMENT REPORT - Mill Valley Residential Community

I. SOIL TYPES

a. Table I - U.S.D.A. Soil Types

The Soil Types present on the site include:

ByB2	Butlertown/silt loam	Moderately well drained soil. Depth to bedrock - 6+ feet.
Cn	Congaree silt loam	Well drained, materials of flood plains. Depth to bedrock - 3-6 feet.
GeB2	Glenelg channery silt loam	Well-drained upland soil. Depth to bedrock - 3-7+ feet.
GnB	Glenville silt loam	Moderately, well-drained upland soil. Depth to bedrock - 3-6 feet.
MgB2	Manor loam	Well-drained loam upland soil. Depth to bedrock - 2-7 feet.
MgC	(same as above) 8-15 percent slope	Well-drained loam upland soil. Depth to bedrock - 2-7 feet.
MgC2	(same as above) moderately eroded	Well-drained loam upland soil. Depth to bedrock - 2-7 feet.
MgD	(same as above) 15-25 percent slopes	Well-drained loam upland soil. Depth to bedrock - 2-7 feet.
MhE3	Manor loam and channery loam 25-35 percent slopes severely eroded	Well-drained loam upland soil. Depth to bedrock - 2-7 feet.
We	Wehadkee silt loam	Poorly drained silt loam, subject to flooding. Depth to bedrock - 5-8 feet.

The location of the above soil types on the site is shown on the Soils Map (drawing A4). The characteristics and limitations of the soils are shown in the Soils Chart above.

The entire development area where dwelling units are proposed is located on well drained soils except for the foundations of existing buildings whose first floors are above the 100-year floodplain elevation. The Delaware County Soil Survey indicates that the housing sites occupy high positions in the landscape where well drained soils reflect their desirability for residential construction. The seasonal high water table is at a depth of 10 feet or greater below the surface in these well drained soil types, therefore providing no constraint for the location of dwelling units.

II. SURFACE WATERS

a. Nearest Surface Waters

The Ridley Creek flows right through the site. The middle of the stream represents the boundary between Nether Providence Township and Brookhaven Borough. Of the 42+ acres which make up the property, approximately 27 acres are in Nether Providence Township and 15 are in Brookhaven Borough Two small streams bisect the property on its northern side and flow into Ridley Creek.

Approximately 7 acres of stream and 100-year floodplains exist within the boundaries of the subject residential development on the Nether Providence side. Refer to the floodplain lines (on drawing A4).

b. Sources of Runoff

Sources of runoff will be precipitation and the amount of development coverage, comprised of roofs and parking areas. Please refer to runoff calculations in Table II, Site Stormwater Runoff Schedule.

Table II - SITE STORMWATER RUNOFF SCHEDULE

Runoff based on 100-year storm of 7.2 in intensity

EXISTING CONDITIONS:

Area No.	Weighted CN	Direct Runoff (IN)
1	80	4.88
2	77	4.55
3	78	4.66
4	75	4.33
5	60	2.75
6	60	2.75
7	60	2.75

PROPOSED CONDITIONS:

Area No.	Weighted CN	Direct Runoff (IN)
1	90	6.22
2	83	5.22
3	84	5.33
4	88	5.79
5	71	3.89
6	78	4.66
7	98	6.96

REQUIRED STORAGE:

Area No.	Retention Basin
1	4400 CF
2	13000 CF
3	-
4	20500 CF
5	16000 CF
6	16000 CF
7	-

c. Rate of Runoff

Through the use of detention basins, this project will have a rate of runoff, after development, equal to or less than the rate in its present developed state (refer to drawing A3 "Existing Conditions").

d. Destination and Control of Runoff

Runoff will flow to detention facilities. These detention basins are located on drawing A6 - "Site Plan".

e. Chemical Additions to Runoff

Small amounts of pollutants will be added to the runoff by road oil, tar and fertilizers. Road oil can be trapped prior to entering surface water bodies through the use of microscreens and/or diatomacious earth. Additionally, humus or peat lined basins serve as filters for the elimination of metals emanating from road use. Only organic fertilizers will be used and such limited use will be controlled by the Community Association of Mill Valley. Landscaping plans will utilize native plant species which do not require excessive irrigation and management attention.

f. Soil Erosion and Sediment Control Plans

A Soil Erosion and Sediment Control Plan is being prepared and will be submitted to, and approved by the Delaware County Soil Conservation District, as well as the Township Environmental Advisory Council, as required by the Soil Erosion and Sediment Control Ordinance, prior to the start of construction.

III. GROUND COVER

a. Existing Impervious Ground Cover

There is existing impervious cover on the site. The existing fiber mills and access roads together represent approximately 110,000 square feet of impervious surfaces in the form of industrial plant roofs and access and parking areas (see drawing A3 "Existing Conditions"). The National Hair Cloth Company presently operates the existing mills as a finishing plant.

b. Proposed Impervious Ground Cover.

Proposed impervious cover will include houses, roadways, parking areas and sidewalks (see drawing A6 "Proposed Site Plan").

c. Existing Vegetative Cover

The site has some relatively undisturbed woodland on the steeper slopes (see drawing A4 "Vegetation"). The flat areas of the site not presently developed are characterized by old field vegetation.

d. Proposed Vegetative Ground Cover

The site will be landscaped according to all regulations for site plan and subdivision approvals pursuant to the ordinances of Nether Providence Township.

IV. TOPOGRAPHY

a. Maximum and Minimum Existing Elevation

The elevation of the site varies from the maximum elevation of 140 feet near the northern corner of property adjacent to the Borough of Rose Valley to a minimum of 44 feet where Ridley Creek leaves the property on its southern boundary. The highest elevation on the Brookhaven side is 120 feet. Therefore, there is almost 100 feet of elevation change across the site. This difference in elevation defines the edges of the Ridley Creek stream valley.

b. Maximum and Minimum Proposed Elevation

Once rough and final grading has been done for the Mill Valley Residential Community, the final elevations will remain basically the same as existing. Slopes over 25% which are indicated on drawing A5 will be left undisturbed. There is approximately 2 acres of the property in this slope category. The proposed plan avoids these areas of steep slope by locating housing clusters in the valley outside of the floodplain area or on the top of the ridges.

V. GROUND WATER

a. Average Minimum and Maximum Depth to Seasonal High Water Table

The depths to seasonally high water table on the various soils of the site are listed in the chart in the Soils Section. The Wehadkee silt loam (or a floodplain soil association) has a water table close to the surface. However, the soil types which occupy higher elevations in the landscape are well drained. It is on these soils that the proposed dwelling units are located.

VI. WATER SUPPLY

a. Source and Adequacy of Water Supply

Water will be supplied to the site by 8 inch line which presently exists on the property from the Media Water Company. The proposed housing clusters would tie into this line. The municipal system has adequate supply to service the site.

b. Expected Water Requirements

The daily water requirement for a residential community, based upon historical records, is approximately 100 gallons per dwelling unit per day. The 65 units will require a total of 6,500 gallons of water per day and the office space 2,000 gallons per day for a total of 8,500 gallons per day.

c. Water Use

Water will be used for normal activities associated with domestic uses.

VII. SEWAGE SYSTEM

a. Sewage Disposal System

There are three sewer lines presently on the property. Sewage will be collected by gravity and connected to Brookhaven sewer at the south end of the property by a gravity main. Sewage will be sent to the DelCora sewage treatment plant and, after treatment, discharged into the Delaware River.

b. Expected Content of Sewage Effluent

Expected contents of the sewage will be domestic in nature.

c. Expected Daily Sewage Volume

Sewage volumns generated by the site are estimated to be 8,500 gallons per day.

d. Sewage Treatment Plant Capacity

It is understood from the municipality that the present sewage treatment plant can handle the additional capacity.

VIII. SOLID WASTE

a. Estimated Quantity Solid Waste Generation

Solid waste generation during construction is expected to be approximately 500 cubic yards per housing cluster. The estimated waste generated would be approximately 1,850 cubic yards in a loose uncompacted state.

After construction, solid waste is calculated at two cubic yards per dwelling unit per week. With 65 dwelling units, solid waste generation is therefore estimated to be 170 cubic yards per week from the Residential Component and 60 cubic yards per week from the Office Component for a total of 230 cubic yards.

b. Method of Disposal

Solid waste will be removed by a private hauler both during and after construction. Receptacles will be adequately screened in a manner acceptable to the Nether Providence Township.

c. Recycling Plans

The final disposal of solid waste will be the responsibility of the contracted hauler. The methods and locations of disposal by private hauler are controlled by various permits and regulations. Every effort will be made to engage a hauler that has an active recycling plan.

IX. NOISE

a. Noise Levels

During construction, noise levels for residential uses of this nature are basically equal and would be classified as "normally unacceptable" to "unacceptable" as defined by HUD, 24 CFR Parat 51, Environmental Criteria and Standards, 1979. Normally unacceptable levels are those which exceed 65 dB but do not exceed 75 dB. Unacceptable levels are those which exceed 75 dB.

Noise levels on-site after construction will generally be acceptable (not exceeding 65 dB). Tree buffers will soften the noise during construction and result in lower ratings at a reasonable distance from the site. Decibel levels expected to be attained during various residential construction phases are:

Phase	dBA	
	I	II
Ground Clearing	83	83
Excavation	88	75
Foundation	81	81
Erection	81	65
Finishing	88	72

I - All pertinent equipment present at site
II - Minimum required equipment present at site.

Typical noise levels to be attained by various types of construction equipment are listed below:

Type	dBA at 50 feet
Earthmoving - Excavation (bulldozers, shovels, front loaders)	72 - 96
Materials Handling (cranes, derricks, concrete mixers, concrete pumps)	75 - 88
Stationary (pumps, electric power generators, air compressors)	70 - 87

While the above estimates for noise generation during construction exceed acceptable levels, these levels are produced for any type of construction of this nature. Unacceptable construction noise levels are standard and are not peculiar to the proposed project.

The primary source of noise after construction of residential housing clusters will be the normal use of motor vehicles by tenants and deliveries, in addition to seasonal maintenance equipment.

Sources: HUD 24 CFR part 51, "Environmental Criteria and Standards," 1979.
U.S. Department of Transportation, "Transportation Noise and Its Control," Washington, DC, 1972, p. 11.
U.S.E.P.A. "Legal Complication, Noise," 1973, p. 2-104, 2-106.

b. Noise Control

Quieting noise in engine-powered equipment can be achieved by use of better exhaust mufflers, intake silencers, and redesigned cooling fans.

During construction, there will be some buffering from the wooded areas. The noise impact should be minimal since the majority of the adjacent residences are buffered by tree lines or woodland.

After construction, noise levels will be comparable to current levels on similar residential sites and similar to the existing industrial use.

X. TRAFFIC TRIP GENERATION

The best and normally accepted method of estimating the amount of traffic a proposed development will generate is to compare it to similar existing developments. Over the years the Institute of Transportation Engineers (ITE) has compiled thousands of traffic generation studies for many types of land uses and published trip generation rates for the purpose of projecting traffic flows. This publication is entitled "Trip Generation", Third Edition, 1982.

To assess the impact on the specific roads and intersections, it is best to make a comparison of the trips that will be generated during the morning and afternoon Peak Hours, the time when the combination of site traffic and existing street traffic will be at its greatest.

Trip Generation

Use	Dwelling Units	Daily Trips	P.M. Peak Hour In	Out	Total
Mill Valley Residential Community	65	650	32	32	64
Office Use	40,000 Sq. Ft.	4,600	60	60	120

A trip is a one-way traffic movement (i.e. a vehicle entering the site counts as one "trip"; as the vehicle leaves the site it counts as a separate "trip").

XI. UNAVOIDABLE ADVERSE IMPACTS

a. Unavoidable Adverse Impacts

The following unavoidable adverse impacts will result from the proposed plan or any other type of permitted development:

* Addition of roadway pollutants to runoff (present levels exist)
* Soil erosion and sedimentation during construction (on-site)
* Increase in air pollutants through use of vehicles
* Increase in sewage flows to treatment facilities

* Decrease in remaining capacity of water supply, sewage treatment and energy generating facilities.
* Increase in vehicular traffic on existing roads
* Increase in solid waste

b. Protective Measures to Minimize Environmental Impact

Vegetation will be planted in accordance with all Township standards. Erosion control measures will be followed before and after seeding.

A buffer area will be provided adjacent to existing residential areas. In addition, graded areas will be prepared and replanted promptly in keeping with good landscaping techniques.

Dust will be controlled by sprinkling when necessary. Adequate chemical toilets, trash and solid waste disposal facilities will be provided. No burning of waste will be conducted on site. During construction, tire cleaners (areas of rough gravel) will be located at the entrance of any roadway that has access to the site.

XII. LICENSES, PERMITS, APPROVALS REQUIRED AND STATUS

Nether Providence Township

Zoning Board of Adjustment - Use Variance, PRD Site Plan Approval
Nether Providence Township MUA - Sewer and Water Approval
Nether Providence Township - Engineer Review and Approval for all infrastructure systems
Nether Providence Planning - Plan Review and Approval
Nether Providence Environmental Advisory Council - Plan Review and Approval; Soil Erosion and Sedemention Control Plan Approval

Delaware County

Planning Board - Site Plan Approval
Soil Conservation District - Soil Erosion and Sedimention Control Plan Review and Approval
County Engineer - Road Opening review

Pennsylvania State

Department of Environmental Protection - Soil Erosion and Sedimentation Control Plan Approval
Department of Transportation - access road approval

XIII. A. FISCAL IMPACT ANALYSIS - ASSUMPTIONS

B. FISCAL IMPACT OF CLUSTERED ESTATES

C. FISCAL IMPACT OF MILL VALLEY INDUSTRIAL CENTER

"MILL VALLEY"

April 6, 1989

FISCAL IMPACT ANALYSIS - ASSUMPTIONS
SACKVILLE MILLS

ITEM	DEVELOPER'S ASSUMPTION ON 65 CLUSTERED HOUSES & OFFICE SPACE	COMMENTS
1) Assessed Value of clustered houses	$ 11,000.00	Estimate based on selling price of clustered houses
2) N.P. Twp. annual $ of per resident (exp.)	137.12	Based on 1988 budget of $1,780,000 and 13,000 population
3) Wallingford/Swarthmore annual $ per student	5,000.00	Compromise between Growth Properties number and Bill Peck's estimated number
4) Assessed value of professional offices	161,700.00	Based on 4.2% of building cost + $700.00 per acre for land
5) N.P. Twp. annual $ per work (exp.)	68.56	Based on 1/2 of cost of a resident ($\frac{137.12}{2}$ = 68.56)

SUMMARY

The result of incorporating these assumptions into the financial analysis is a follows:

Revenues Less Expenditures	65 Cluster Houses	40,000 sq. ft. Professional	Total
Township	$ 13,640 surplus	$ 3,405 surplus	$ 17,045
School	$164,759 surplus	$55,353 surplus	$220,112

"MILL VALLEY"

April 6, 1989

FISCAL IMPACT OF MILL VALLEY CLUSTERED ESTATES AT SACKVILLE MILLS PROPERTY

In order to see the fiscal impact of the proposed development on Township municipal and school budgets, an estimation of anticipated property valuation must be made. The following table summarizes these valuations, reflecting current assessed valuation:

	Dwelling Units	X	Assessed Value per Sq. Ft.	= Total Valuation
Mill Valley	65	X	11,000	715,000
	Assessed Valuation Total			715,000

Projected tax revenues are determined by applying Township municipal and school assessment rates to these assessed valuations. Assessment rates for Nether Providence Township are as follows:

1987 Tax Assessment Rates
(per $100 assessed valuation)*

Municipal Taxes:	46.5 mills
School Taxes	342.32 mills
County Taxes:	79.78 mills
Total Assessment Rate:	468.60 mills

*Source: Nether Providence Township Manager's Office

The total anticipated project tax revenues are taken by multiplying the assessment rate (divided by $100) by the assessed valuation. In other words:

$$\text{Total anticipated project tax revenue} = \frac{\text{assessment rate (in cents)}}{100} \times \text{(assessed value)}$$

Municipal Revenues

Mill Valley Residential Community: 4.65 x (715,000) = $ 33,248

School Revenues

Mill Valley Residential Community: 34.232 X (715,000) = $244,759

County Revenues

Mill Valley Residential Community: 7.978 X (715,000) = $ 57,043

Total Revenue = $335,050

The existing industrial use, on the other hand, contributes only $11,783 to municipal income.

Existing Municipal School & County Revenues generated from existing us: $ 11,783

Difference between proposed use and existing use in tax dollars $323,267

The next step toward assessing comparable fiscal impact is the determination of anticipated project, municipal, school system costs and those costs generated by service requirements to the new community. Projected costs for the proposed development is based upon current per capita multiplied by projected population, while school costs similarly equal costs per student multiplied by projected number of students.

Mill Valley Population Estimate: (65 units X 2.2 persons/unit* = 143 persons

Municipal Costs

Cost per capita X Projected population = Total Cost

Mill Valley Residential Community: $137.12 (est.) x 143 = $19,608.16

Schools (combined regional and local districts) Costs

Cost per student X Projected # of students = Total Cost

Mill Valley Residential Community: $5000** x 16 = $80,000

Overall Fiscal Impact

Bringing the revenue and cost figures together, the overall fiscal impact can then be projected for the proposed community. As the figures below indicate, the Mill Valley Residential Community shows an annual surplus for both municipal and school system Clearly, the most easily explained condition is that the Mill Valley contributes very little in terms of municipal costs while adding significant revenues to the township budget.

Mill Valley Residential Community

Municipal

Revenue		$ 33,248.00
Cost	-	$ 19,608.16
Annual Surplus		$ 13,639.84

School

Revenue		$244,759.00
Cost	-	$ 80,000.00
Annual Surplus		$164,759.00

*Taken from Nether Providence Township Housing Unit and Population Estimates - November, 1986.

**Does not include amortized cost of debt since it does not vary with school population.

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MILL VALLEY"

April 6, 1989

FISCAL IMPACT
OF
MILL VALLEY PROFESSIONAL CENTER
AT
SACKVILLE MILLS PROPERTY

In order to see the fiscal impact of the proposed development on Township municipal and school budgets, an estimation of anticipated property valuation must be made. The following table summarizes these valuations, reflecting current assessed valuation:

	Square Feet	X Average Cost per Sq. Ft.	= Valuation	Assessed Valuation
Professinal Center Buildings	40,000	$85.00	3,400,000	$142,800
Land	27 Acres		700,000	$ 18,900
		Total		$161,700

Projected tax revenues are determined by applying Township municipal and school assessment rates to these assessed valuations. Assessment rates for Nether Providence Township are as follows:

1987 Tax Assessment Rates
(per $100 assessed valuation)*

Municipal Taxes:	46.5 mills
School Taxes	342.32 mills
County Taxes:	79.78 mills
Total Assessment Rate:	468.60 mills

*Source: County Assessor's Office, Tony Delia, and Nether Providence Township Manager's Office.

The total anticipated project tax revenues are taken by multiplying the assessment rate (divided by $100) by the assessed valuation. In other words:

$$\text{Total anticipated project tax revenue} = \frac{\text{assessment rate (in cents)}}{100} \times \text{(assessed value)}$$

Municipal Revenues

Sackville Business Center: $\frac{4.65}{100} \times (161,700) = \$ 7,519$

School Revenues

Sackville Business Center: $\frac{34.232}{100}$ X (161,700) = $ 55,353

County Revenues

Sackville Business Center $\frac{7.978}{100}$ X (161,700) = $ 12,900

Total Revenues = $335,050

The next step toward assessing comparable fiscal impact is the determination of anticipated project, municipal, school system costs and those costs generated by service requirements to the new community. Projected costs for the proposed development is based upon current per capita multiplied by projected population, while school costs similarly equal costs per student multiplied by projected number of students.

Mill Valley Population Estimate: (65 units X 2.2 persons/unit*) = 143 persons

Municipal Costs

	Cost per capita	X Projected population	= Total Cost
Sackville Business Center	$ 68.56 (est.)	x 60	= $4,114

Schools (combined regional and local districts) Costs

	Cost per student	X Projected # of students	= Total Cost
Sackville Business Center	$5000**	x $0	= $0

Overall Fiscal Impact

Bringing the revenue and cost figures together, the overall fiscal impact can then be projected for the proposed community. As the figures below indicate, the Mill Valley Residential Community shows an annual surplus for both municipal and school system Clearly, the most easily explained condition is that the Mill Valley contributes very little in terms of municipal costs while adding significant revenues to the township budget.

SACKVILLE BUSINESS CENTER

Municipal	
Revenue	$ 7,519
Cost	$ 4,114
Annual Surplus	$ 3,405
School	
Revenue	$55,353
Cost	-0-
Annual Surplus	$55,353

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THESE NUMBERS REPRESENT PRELIMINARY ESTIMATES AND

WILL CHANGE AS DETAILED DESIGN AND CONSTRUCTION TAKES PLACE.